

REMARKS

This application has been carefully reviewed in light of the Office Action dated July 20, 2009. Claims 1 to 8 are in the application, of which Claim 1 is the sole independent claim. Reconsideration and further examination are respectfully requested.

Claims 1 to 8 were rejected under 35 U.S.C. § 102(b) over U.S. Patent 5,415,978 (Asami). The rejections are respectfully traversed, as explained in more detail below.

The claims are directed to control of an image forming apparatus, in which the temperature of an optical deflector having a movable portion is controlled based on a modulation signal of a light source. Because of control over the temperature of the optical deflector, a resonance frequency of the optical deflector is stabilized.

In one representative embodiment, described in connection with Figure 7, a light source control unit uses the power P_{dr} of light with which the optical deflector 10 is irradiated within a drawing time, so as to determine a current to be supplied to heating element 60. Naturally, the scope of the claims is not limited to the representative embodiments described in the specification, which rather serve to illustrate examples of arrangements which fall within the scope of the claims.

So as to emphasize actual use of the modulation signal by the temperature controller, the claims herein have been amended so as to specify control “by using” a modulation signal.

In contrast, the Figure 3 arrangement of Asami is not seen to disclose use of a modulation signal in connection with temperature control of an optical deflector having a movable portion. Rather, as shown in Figure 3, resonator mirror 108 is provided with heat sink 116 and Peltier element 118, together with temperature sensor 124 whose output is used by drive control circuit 126 so as to drive Peltier element 118. The construction of drive control circuit 126, however, is not seen to involve use of the modulation signal for semiconductor laser 102. Rather, as described by Asami at column 17, drive control circuit 126 is a simple feed-back control loop which is intended to maintain resonator mirror 108 at a predetermined constant temperature:

“The drive circuit 122, 126 associated with the Peltier element is not particularly limited in construction and, for example, it may be constructed from a reference voltage generator, comparator, and Peltier element driver and the like. In such an exemplary circuit, the comparator compares an output voltage from the temperature sensor 120 [or temperature sensor 124] with a reference voltage from the reference voltage generator and delivers the differential voltage to the driver. The driver produces a power in proportion to the difference for driving the Peltier element for temperature control.” Asami at column 17, lines 42-52.

Thus, Asami’s drive circuit 126 does not make use of the modulation signal for driving laser 102. As a consequence, the arrangement set out in Asami is different from that set out in the claims.

It is therefore respectfully submitted that the claims define subject matter that is not anticipated by the disclosure of Asami, and withdrawal of the rejection under § 102(b) is respectfully requested.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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